AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims in the application with the following list of claims, in which insertions are indicated by underlining and deletions are indicated by double bracketing.

1. (Canceled)

2. (Currently amended) The method according to claim [[1]] <u>93</u> wherein (d) comprises selecting the operating parameter value based on relationships established between (1) values of the operating parameter and (2) blood flow rate values, impedance values and distance values.

3. (Original) The method according to claim 2, wherein the relationships are established with analyses of a numerical model of transmission of energy to biological tissue by an ablation electrode.

4. (Original) The method according to claim 3 wherein the numerical model comprises a finite element model.

5. (Previously Presented) A method of selecting an operating parameter value for supplying energy to an ablation electrode, comprising:

(a) receiving a first signal representing a value of a fluid flow rate;

(b) receiving a second signal representing a value of an impedance;

(c) receiving a third signal representing a value of a positive distance from an ablation electrode surface to a target tissue surface; and

(d) selecting a value for an operating parameter for supplying energy to the ablation electrode as a function of the first, second and third signals;

wherein:

(d) comprises selecting the operating parameter value based on relationships established between (1) values of the operating parameter and (2) fluid flow rate values, impedance values and distance values;

the relationships are established with analyses of a numerical model of transmission of energy to biological tissue by an ablation electrode;

the numerical model comprises a finite element model; and

to model a tissue temperature distribution, the numerical model comprises equations for modeling an electric field created by the ablation electrode, heat generated by the electric field, and a velocity field of the fluid flow.

6. (Original) The method according to claim 5 wherein the numerical model comprises the following equations to model tissue temperature distribution:

$$\nabla \bullet \sigma \nabla \varphi = 0 \ ;$$

$$\rho c\left(\frac{\delta T}{\delta t} + U\frac{\delta T}{\delta x} + V\frac{\delta T}{\delta y} + W\frac{\delta T}{\delta z}\right) = \nabla \bullet (k\nabla T) + J \bullet E \ ;$$

$$\rho\left(\frac{\delta U}{\delta t} + U\frac{\delta U}{\delta x} + V\frac{\delta U}{\delta y} + W\frac{\delta U}{\delta z}\right) = -\frac{\delta P}{\delta x} + \mu\left(\frac{\partial^2 U}{\partial x^2} + \frac{\partial^2 U}{\partial y^2} + \frac{\partial^2 U}{\partial z^2}\right) \ ;$$

$$\rho\left(\frac{\delta V}{\delta t} + U\frac{\delta V}{\delta x} + V\frac{\delta V}{\delta y} + W\frac{\delta V}{\delta z}\right) = -\frac{\delta P}{\delta y} + \mu\left(\frac{\partial^2 V}{\partial x^2} + \frac{\partial^2 V}{\partial y^2} + \frac{\partial^2 V}{\partial z^2}\right) \ ;$$

$$\rho\left(\frac{\delta W}{\delta t} + U\frac{\delta W}{\delta x} + V\frac{\delta W}{\delta y} + W\frac{\delta W}{\delta z}\right) = -\frac{\delta P}{\delta z} + \mu\left(\frac{\partial^2 W}{\partial x^2} + \frac{\partial^2 W}{\partial y^2} + \frac{\partial^2 W}{\partial z^2}\right) \ ; \text{and}$$

$$\frac{\delta U}{\delta x} + \frac{\delta U}{\delta y} + \frac{\delta U}{\delta z} = 0 \ .$$

7. (Currently amended) The method according to claim [[2]] 5, wherein the relationships are established with analyses of an *in vitro* model of transmission of energy to biological tissue by an ablation electrode.

8. (Currently amended) The method according to claim [[1]] 5, wherein the second signal, representing the value of the impedance, comprises a signal representing an electrode geometry.

9. (Currently amended) The method according to claim [[1]] 5, wherein the second signal, representing the value of the impedance, represents an impedance into which energy is supplied.

10. (Currently amended) The method according to claim [[1]] 5, wherein (d) comprises selecting a plurality of values for an operating parameter, each value corresponding to a separate time during the supplying of energy to the ablation electrode.

11. (Canceled)

12. (Currently amended) The method according to claim [[1]] 5, wherein (d) comprises selecting a value for each of a plurality of operating parameters.

13. (Canceled)

14. (Currently amended) The method according to claim [[1]] 5, wherein the operating parameter is a maximum temperature allowed for the ablation electrode.

15. (Currently amended) The method according to claim [[1]] 5, wherein the operating parameter is power applied to the ablation electrode.

16. (Currently amended) The method according to claim [[1]] 5, wherein the operating parameter is voltage of the energy supplied to the ablation electrode.

17-19. (Canceled)

20. (Currently amended) The method according to claim [[1]] 5, wherein (d) comprises selecting the operating parameter value using a processor programmed with an algorithm.

21-22. (Canceled)

23. (Currently amended) The method according to claim [[1]] 5, wherein (a) comprises receiving the first signal from a fluid flow sensor.

24. (Currently amended) The method according to claim [[1]] 5, wherein the first signal is generated by an input entered by a user.

25. (Currently amended) The method according to claim [[1]] 5, wherein (b) comprises receiving the second signal from an impedance sensor.

26. (Canceled)

27. (Currently amended) The method according to claim [[1]] 5, wherein (c) comprises receiving the third signal from a distance sensor.

28-29. (Canceled)

30. (Currently amended) A method of supplying energy to an ablation electrode comprising the method of claim [[1]] 5 and further comprising:

(e) controlling an energy supply such that energy is supplied to the ablation electrode at the selected operating parameter value.

31-92. (Canceled)

93. (New) The method according to claim 5, wherein the first signal, representing a value of a fluid flow rate, represents a value of a blood flow rate.